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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/589,046

Applicant(s)

SMALL ET AL.

Examiner

TREVILLIAN HIGHTER

Art Unit

2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-893)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 5/27/2008

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (US Publication No. 2001/0054101 A1) in view of Beser (US Patent No. 6,189,102 B1) and further in view of Schutte et al. (US Patent No. 6,178,455 B1).

2. With respect to claim 1, Wilson discloses an information handler for handling information relating to network services for the client based on the assigned address ([0007], lines 8-13).

Wilson does not disclose a registration driver provided at a selected location of the internal network, the internal network being operated by a multi-system operator and formed with network entities, the registration driver for registering a client connecting to one of the network entities; an address assignment handler provided at the selected location of the internal network for assigning to the client an address associated with the one of the network entities to which the client is connected.

Beser discloses a registration driver provided at a selected location of the internal network (column 2, lines 23-33; column 29, lines 33-37), the internal network being operated by a multi-system operator and formed with network entities (column 6, lines 17-36), the registration driver for registering a client connecting to one of the network entities (column 2, lines 23-33; column 29, lines 33-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson with the teachings of Beser, in order to help improve authentication of data being transmitted over a cable system.

Wilson and Beser do not disclose an address assignment handler provided at the selected location of the internal network for assigning to the client an address associated with the one of the network entities to which the client is connected

Schutte, however, discloses an address assignment handler provided at the selected location of the internal network (Abstract) for assigning to the client an address associated with the one of the network entities to which the client is connected (Abstract, cable modem termination system is interpreted as a cable router).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson and Beser with the teachings of Schutte, in order to pursue a mixed static-dynamic policy for assigning addresses.

3. With respect to claim 12, Wilson discloses an information handler for handling information relating to Internet services for the client based on the assigned address ([0007], lines 8-13).

Wilson does not disclose a registration driver provided at a selected location of the cable modem network having multiple cable modems and Cable Modem Termination Systems (CMTSs) for communicating with connected cable modems, the registration driver for registering a client connecting to one of the cable modems; an address assignment handler provided at the selected location of the cable modem network for assigning to the client an address associated with the one of the cable modems to which the client is connected.

Beser discloses a registration driver provided at a selected location of the cable modem network (column 2, lines 23-33; column 29, lines 33-37) having multiple cable modems and Cable Modem Termination Systems (CMTSs) for communicating with connected cable modems (column 6, lines 17-36), the registration driver for registering a client connecting to one of the cable modems (column 2, lines 23-33; column 29, lines 33-37).

Wilson and Beser do not disclose an address assignment handler provided at the selected location of the cable modem network for assigning to the client an address associated with the one of the cable modems to which the client is connected.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson with the teachings of Beser, in order to help improve authentication of data being transmitted over a cable system.

Schutte, however, discloses an address assignment handler provided at the selected location of the cable modem network (Abstract, cable modem termination system is interpreted as a cable router) for assigning to the client an address associated with the one of the cable modems to which the client is connected (Abstract, cable modem termination system is interpreted as a cable router).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson and Beser with the teachings of Schutte, in order to pursue a mixed static-dynamic policy for assigning addresses.

4. With respect to claim 15, Wilson discloses an information handler for handling information relating to network services for the client based on the assigned address ([0007], lines 8-13).

Wilson does not disclose registering, at a selected location of the internal network which is operated by a multi-system operator and formed with network entities, a client connecting to one of the network entities; assigning to the client an address associated with the one of the network entities to which the client is connected.

Beser discloses registering, at a selected location of the internal network (column 2, lines 23-33; column 29, lines 33-37) which is operated by a multi-system operator and formed with network entities (column 6, lines 17-36), a client connecting to one of the network entities (column 2, lines 23-33; column 29, lines 33-37).

Wilson and Beser do not disclose assigning to the client an address associated with the one of the network entities to which the client is connected.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson with the teachings of Beser, in order to help improve authentication of data being transmitted over a cable system.

Schutte, however, discloses assigning to the client an address associated with the one of the network entities to which the client is connected (Abstract, cable modem termination system is interpreted as a cable router).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson and Beser with the teachings of Schutte, in order to pursue a mixed static-dynamic policy for assigning addresses.

5. With respect to claim 26, Wilson discloses handling information relating to network services for the client based on the assigned address ([0007], lines 8-13).

Wilson does not disclose registering, at a selected location of the internal network which is operated by a multi-system operator and formed with network entities, a client connecting to one of the network entities; assigning to the client an address associated with the one of the network entities to which the client is connected.

Beser discloses registering, at a selected location of the internal network (column 2, lines 23-33; column 29, lines 33-37) which is operated by a multi-system operator and formed with network entities (column 6, lines 17-36), a client connecting to one of the network entities (column 2, lines 23-33; column 29, lines 33-37).

Wilson and Beser do not disclose assigning to the client an address associated with the one of the network entities to which the client is connected.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson with the teachings of Beser, in order to help improve authentication of data being transmitted over a cable system.

Schutte, however, discloses assigning to the client an address associated with the one of the network entities to which the client is connected (Abstract, cable modem termination system is interpreted as a cable router).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson and Beser with the teachings of Schutte, in order to pursue a mixed static-dynamic policy for assigning addresses.

6. With respect to claim 2, Wilson discloses the registration driver registers the client ([0007], lines 4-7) with the assigned Internet Protocol (IP) address or Media Access Control (MAC) address ([0007], lines 11-13).

7. With respect to claim 3, Wilson discloses the registration driver registers the client ([0007], lines 4-7) in association with information of one or more network elements through which the client is routed ([0027], lines 10-12 and 1-4).

Wilson, however, does not disclose the address assignment handler assigns to the client an IP address that is associated with the information of the one or more network elements through which the client is routed.

Beser, however, discloses the address assignment handler (Abstract) assigns to the client an IP address that is associated with the information of the one or more network elements through which the client is routed (Abstract, cable modem termination system is interpreted as a cable router).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson with the teachings of Beser, in order to help improve security of a data being transmitted over a cable system.

8. With respect to claim 4, Wilson discloses a network entity database ([0068], lines 1-5, when registration data is stored, a database is inherent) for storing location information of a network entity in association with a MAC address of the network entity ([0070], lines 1-6); and a location resolution handler ([0058], lines 1-10) for obtaining a network entity MAC address from network traffic sent from or to a client connected to the network entity ([0058], lines 1-10), and resolving the location of the client based on the location information of the network entity using the client IP address or MAC address ([0058], lines 10-19; [0060], lines 1-12).

9. With respect to claim 5, Wilson discloses the registration driver registers the client ([0007], lines 4-7) in association with a client IP address or client MAC address ([0007], lines 11-13), and the location resolution handler is a Simple Network Management Protocol (SNMP) daemon that resolves the location of the client based on the client IP address assigned by the address assignment handler ([0265], lines 1-3, SNMP location resolution can be based on different conditions).

10. With respect to claim 6, Wilson discloses the internal network reflects one or more network entities which are routing devices ([0027], lines 1-4).

Wilson does not disclose the address assignment handler assigns to the client an address that reflects information of one or more routing devices that the client traffic is routed.

Schutte, however, discloses the address assignment handler (Abstract) assigns to the client an address that reflects information of one or more routing devices that the client traffic is routed (Abstract, cable modem termination system is interpreted as a cable router).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson with the teachings of Schutte, in order to pursue a mixed static-dynamic policy for assigning addresses.

11. With respect to claim 7, the claim is rejected for the same reason as claim 1 above. In addition, Beser discloses the internal network includes one or more Dynamic

Host Configuration Protocol (DHCP) relay modules (column 2, lines 34-50; and the address assignment handler (column 2, lines 38-46) assigns to the client an address that reflects information of one or more DHCP relay modules through which the client traffic passes (column 2, lines 34-50).

12. With respect to claim 8, the claim is rejected for the same reason as claim 1 above. In addition, Beser discloses the internal network includes network entities which are bridging devices (column 29, lines 51-67; column 30, lines 1-6); and the address assignment handler (column 2, lines 34-50) assigns to the client an address that reflects information of bridged network entities through which the client traffic passes (column 2, lines 34-50, network devices are interpreted to include devices in a bridged network).

13. With respect to claim 9, Wilson discloses the information handler ([0176], lines 1-3) handles billing information for a client ([0177], lines 1-9) based on the location of the client as resolved by the location resolution handler ([0058], lines 10-19; [0060], lines 1-12).

14. With respect to claim 10, Wilson discloses the client has a fixed address that is used for a foreign network ([0052], lines 1-2); and an address translator for translating the fixed address to or from the assigned address ([0052], lines 14-17).

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15. With respect to claim 11, Wilson discloses a network entity provisioning handler (abstract, lines 1-4) for provisioning a network entity (abstract, lines 1-4; [0029], lines 4-5; [0038], lines 1-2); and a network entity information handler (abstract, lines 1-4) for storing the provisioning information in the network entity database (abstract, lines 18-21).

16. With respect to claim 13, Wilson discloses the registration driver registers the client based on the assigned IP address or MAC address ([0007], lines 11-13).

17. With respect to claim 14, Wilson discloses the registration driver registers the client in association with information of a CMTS to which the client is connected ([0007], lines 4-7).

Wilson does not disclose the address assignment handler assigns to the client an IP address that is associated with the information of the CMTS to which the client is connected.

Schutte, however, discloses the address assignment handler (Abstract) assigns to the client an IP address that is associated with the information of the CMTS to which the client is connected (Abstract, cable modem termination system is interpreted as a cable router).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson with the teachings of Schutte, in order to pursue a mixed static-dynamic policy for assigning addresses.

18. With respect to claim 16, Wilson discloses the registering step registers the client based on the assigned Internet Protocol (IP) address or Media Access Control (MAC) address ([0007], lines 11-13).

19. With respect to claim 17, Wilson discloses the registering step registers the client in association with information of one or more network elements through which the client is routed ([0027], lines 10-12 and 1-4).

Wilson does not disclose the assigning step assigns to the client an IP address that is associated with the information of the one or more network elements through which the client is routed.

Schutte, however, discloses the assignment step assigns to the client an IP address that is associated with the information of the one or more network elements through which the client is routed (Abstract, cable modem termination system is interpreted as a cable router).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wilson with the teachings of Schutte, in order to pursue a mixed static-dynamic policy for assigning addresses.

20. With respect to claim 18, Wilson discloses storing location information of a network entity in association with a assigned IP address of the network entity ([0070], lines 1-6; obtaining a network entity MAC address from network traffic sent from or to a client connected to the network entity ([0058], lines 1-10); and resolving the location of

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the client based on the location information of the network entity using the client IP address or MAC address ([0058], lines 10-19; [0060], lines 1-12).

21. With respect to claim 19, Wilson discloses the registering step registers the client ([0007], lines 4-7). in association with a client IP address or client MAC address ([0007], lines 11-13) and the resolving step resolves the location of the client by a SNMP daemon based on the client IP address assigned by the assigning step ([0265], lines 1-3, SNMP location resolution can be based on different conditions.

22. With respect to claim 20, Wilson discloses the assigning step assigns to the client an address ([0027], lines 10-12) that reflects information of the device through which the client is routed when one or more network entities are routing devices ([0027], lines 1-4).

23. With respect to claim 21, the claim is rejected for the same reason as claim 15 above. In addition, Beser discloses the assigning step (column 2, lines 38-46) assigns to the client an address that reflects information of one or more DHCP relay modules through which the client traffic passes when the internal network includes one or more DHCP relay modules (column 2, lines 34-50).

24. With respect to claim 22, Wilson discloses the assigning step assigns to the client an address ([0027], lines 10-12) that reflects information of bridged network

entities through which the client traffic passes when one or more network entities are bridging devices ([0155], lines 10-13 and 9-10).

28. With respect to claim 23, Wilson discloses the information handling step handles billing information for a client ([0177], lines 1-9) based on the location of the client as resolved by the location resolution handler ([0058], lines 10-19; [0060], lines 1-12).

29. With respect to claim 24, Wilson discloses for a client having a fixed address that is used for a foreign network ([0052], lines 1-2), translating the fixed address to or from the assigned address ([0052], lines 14-17).

30. With respect to claim 25, Wilson discloses provisioning a network entity (abstract, lines 1-4; [0029], lines 4-5; [0038], lines 1-2); and storing the provisioning information in a network entity database (abstract, lines 18-21).

Response to Arguments

31. Applicant's arguments, with regards to claims 1-26, filed 10 August 2006 have been fully considered but they are not persuasive.

32. On page 11 of the Applicant's Response, Applicants argue that Wilson does not teach or suggest assigning an address according to the entity's location on the network.

In response to the applicant's argument, Schutte discloses, dynamically assigning "the set of IP addresses and sends a message comprising the set of IP addresses to the cable router or RF modem" which assigns IP addresses from the set to hosts requesting IP addresses (Abstract).

33. In the present application, Applicants also argue, on page 13 of the remarks, that Wilson does not teach, "an address assignment handler."

In response to the applicant's argument, Schutte discloses, dynamically assigning "the set of IP addresses and sends a message comprising the set of IP addresses to the cable router or RF modem" which assigns IP addresses from the set to hosts requesting IP addresses (Abstract).

34. Applicants also argue on page 13, that Wilson does not teach "router-aware IP address assignment."

In response to the applicant's argument, on page 13, Schutte discloses, dynamically assigning "the set of IP addresses and sends a message comprising the set of IP addresses to the cable router or RF modem" which assigns IP addresses from the set to hosts requesting IP addresses (Abstract).

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35. On page 14 of the Applicant's Response, Applicants argue that Wilson's "ARP protocol described in paragraphs [0058] and [0060] is different from the location resolution handler of claim 5, which performs SNMP-based location-for-IP address resolution".

In response to the applicant's argument, on page 14, Wilson teaches SMNP that resolve address locations ([0265], lines 1-3), therefore, it is apparent that SMNP location resolutions can be based on different conditions.

36. Applicants also argue on page 14, that Wilson does not teach "router-aware IP address assignment."

In response to the applicant's argument, on page 13, Schutte discloses, dynamically assigning "the set of IP addresses and sends a message comprising the set of IP addresses to the cable router or RF modem" which assigns IP addresses from the set to hosts requesting IP addresses (Abstract, cable modem termination system is interpreted as a cable router).

37. In the present application, Applicants also argue, on page 14 of the remarks, that Wilson does not teach, "address assignment that reflects information of DHCP relay modules."

In response to the applicant's argument, Beser discloses, ("DHCP") as a standard messaging protocol to dynamically allocate network addresses such as Internet Protocol ("IP") addresses" (column 2, lines 37-46).

38. On page 15 of the Applicant's Response, Applicants argue that Wilson does not teach address assignment that reflects information of bridged network entities through which the client traffic passes.

In response to the applicant's argument, Beser discloses the network includes devices that represent bridging devices (column 29, lines 51-67; column 30, lines 1-6). DHCP assigns addresses to network devices (column 2, lines 34-50), network devices are interpreted to include devices in a bridged network.

39. Applicants argue on page 16, that Wilson does not teach "an address assignment handler for assigning to the client a client address associated with one of the cable modems to which the client is connected."

In response to the applicant's argument, Schutte discloses, dynamically assigning "the set of IP addresses and sends a message comprising the set of IP addresses to the cable router or RF modem" which assigns IP addresses from the set to hosts requesting IP addresses (Abstract).

40. In the present application, Applicants also argue, on page 17 of the remarks, that Wilson or Ferreria does not teach, "communicating with cable modems, or assignment of an address to the client a client address associated with the one of the cable modems to which the client is connected."

In response to the applicant's argument, Schutte discloses, dynamically assigning "the set of IP addresses and sends a message comprising the set of IP

addresses to the cable router or RF modem” which assigns IP addresses from the set to hosts requesting IP addresses (Abstract).

41. Applicants also argue on page 17, that neither Wilson nor Ferreria teach “router-aware IP address assignment.”

In response to the applicant’s argument, on page 17, Schutte discloses, dynamically assigning “the set of IP addresses and sends a message comprising the set of IP addresses to the cable router or RF modem” which assigns IP addresses from the set to hosts requesting IP addresses (Abstract).

Conclusion

42. Applicant’s amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

43. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TREVILLIAN HIGHTER whose telephone number is (571)270-3806. The examiner can normally be reached on Monday-Friday 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571)272-3984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.3/31

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/John Follansbee/

Supervisory Patent Examiner, Art Unit 2151